The RARS EXCITER

RALEIGH AMATEUR RADIO SOCIETY
RARS
WORLDWIDE FRIENDSHIP

No 303, June 1995 - Repeaters: 146.64-, 224.64-, 444.525+, 444.95+ BBS: 772-9176

LAST CHANCE FOR FIELD DAY '95

Field Day, that unique chance to eat, drink, operate with strange rigs on unknown bands and be merry, is nigh. If you don't know what Field Day is, get on the repeater and ask around. I'm sure you'll find plenty of people who can tell you what a mosquito bitten, sleep deprived, hot and humid, no holds barred, ham radio party, contest and emergency exercise/ rollicking good time it is.

Field Day is "officially" on Saturday June 24th and Sunday June 25th, but there are also wild and wonderful activities on Friday as well.

The schedule is being booked fast, but there are still plenty of opportunities for RARS members to get involved. Our intrepid Field Day Field General, Bill KC4UQO, has been working tirelessly for months to maximize our points in the contest and provide the most diverse operating experiences possible. Even though this is the party/operating event of the year, there is NO CHARGE for you to participate, so "register" with Bill now to get on the "prime time" schedule.

There also is no charge for the emergency antenna erection and portable generator "tutorials" (and hands-on training) on Friday and Saturday, so don't miss this valuable opportunity to expand your skills.

Remember, even if you are a Novice or NCT (No Code Tech) you can operate ALL OVER THE BANDS... and yes, on single side band (voice). All code keys will be firmly affixed to the operating tables so there will be no chance of them jumping up and biting you.

To stake out your spot for this tremendous event contact Bill, KC4UQO at 991-4854 (work) or 677-1891 (home), or on the Wednesday night 8:00 pm net (146.64 MHz). He can also be contacted on Internet at "bressler@bnr.ca". Time is running out, so do it now!

Curt KD4YU

Thanks

for helping at RARSfest '95

Thanks to all those that helped with RARSfest '95! We couldn't have done it without your help! Specifically, thanks to:

AA4MY	Vince	*Exams*
AC4ZO	Jeff	*Contests*
AD4UL	Doug	*Setup*
K4HF	Chuck	*Pre-Hamfest Activities*
K4SAN	Dave	*Teardown*
KB4RZ	Rick	*Security*
KC4UQN	Bruce	*Ticket Sales*
KD4OKR	Mike	*Stage*
KE4IXL	Fred	*Operations*
KE4IZZ	Fontella	*Social*

continued on page 12

The Raleigh Amateur Radio Society, Inc. (RARS), founded in 1969, has grown to be one of the premier radio clubs in North Carolina. Current membership is approximately 400.

The objectives of the club are to promote world wide friendship through Amateur Radio; to be of public service by providing radio communication in times of disaster, emergency, or civic need; to educate members in radio technique, and to assist in obtaining Amateur Radio licenses.

All persons interested in Amateur Radio, currently licensed or not, are eligible to apply for membership to the club.

Dues to the club are $18.00 per year (which runs from July 1 to June 30). Applications for membership may be obtained from any of the officers named below; from the newsletter editor, named on the facing column; or at any RARS Meeting.

Club meetings are held the first Tuesday of every month, 7:30 PM, at Forest Hills Baptist Church, on the corner of Clark Avenue and Dixie Trail, just off of Hillsborough Street.

In addition to the many social and special events, the club sponsors a 2 m repeater, W4DW, on 146.04/64 MHz. The club also sponsors repeaters on 223.04 / 224.64 MHz, 449.5 / 444.5 MHz, 449.95 / 445.95 MHz and a packet cluster node on 147.57 MHz. All repeaters cover Raleigh, and most of the surrounding Wake County area. The auto-patch on W4DW is now no longer closed and is open to all duly licensed amateurs.

1995 Officers:

President:	Rick Merkle, KA3PSK 6412 Sassafras Lane Raleigh, NC 27614 870-8268
Vice President	Bruce Buck KC4UQN 305 Hillstone Drive Raleigh, NC 27615 848-4538
Secretary:	Jeff Wittich, AC4ZO 211 Dundalk Way Cary, NC 27511 362-9456
Treasurer:	Mike Murphy, WA4BPJ 7329 Barberry Court Raleigh, NC 27615 847-4641

The EXCITER is published monthly by the Raleigh Amateur Radio Society, and is mailed at no cost to its members.

Letters to the Editor, technical articles, items of interest to the ham community and guest editorials are actively solicited.

Any article published in the EXCITER does not necessarily represent the views of, the Officers, Board of Directors, Editor, or Society Membership, nor does publication thereof represent concurrence by the Officers, Board of Directors, Editor, or Society membership with the contents of the article.

Articles will be printed at the discretion of the Editor, and no article will be published unless it is accompanied by the name(s) of the person(s) submitting the article.

All copy must be in the hands of the editor by the end of the Board of Director's meeting on the third Tuesday of each month. Articles submitted for publication may be hand or type written, an ASCII file on disk transmitted electronically via telephone modem, or on the ham bands using PACKET.

Ham related items for sale by the members will be advertised without charge for one issue, but may be re-submitted as often as desired. These ads must be non-commercial in nature.

Commercial ads will be run in return for the following donations to the club:

	Single Issue	Full Year
Business Card	$7.50	$75.00
Quarter Page	$11.25	$112.50
Third Page	$15.00	$150.00
Half Page	$22.50	$225.00
Full Page	$50.00	N/A

(Commercial ads must be of "camera-ready quality," and obviously can not be sent via ham bands.) Due to the reprographic process used, no color copy can be accepted.

Mailing List: Mike Murphy, WA4BPJ
7329 Barberry Court
Raleigh, NC 27615
847-4641

1995 Editor: Curt Phillips, KD4YU
6200 Vicky Drive
Raleigh, NC 27603
772-0207
KD4YU@cphillips.pdial.interpath.net
CompuServe: 73167,2050

SPECIAL SERVICE CLUB

Young Ladies' Radio League

AMSAT

SOUTHEASTERN REPEATER ASSOCIATION MEMBER

RARS RENEWAL REMINDER

Just another reminder that it's time to renew your RARS membership! To those of you who have already renewed, THANKS! We appreciate your prompt renewal.

To find out your current status, check the mailing label on your Exciter. Your RARS membership expires on the date shown on the label. For most members, that will be this June 30th. A check made out to "RARS" for the amount of your dues will keep you current. You can renew by check or cash at the club meeting or mail checks only to the treasurer:

Mike Murphy WA4BPJ
7329 Barberry Ct.
Raleigh, NC 27615

If you are licensed, and between the ages of 16 and 60, your dues are $18 per year. If you are older than 60 or younger than 16, your dues are only $12 per year. If you are not licensed, your dues are $9 per year. Any member of your family, licensed or not, can join RARS for an additional $5 per member per year. Family members do not receive the Exciter.

So if you haven't sent us the moola yet, please do so as soon as possible. Eighteen dollars is a small amount for all of the activities that the Raleigh Amateur Radio Society sponsors and we need your support (financially and otherwise) to help us stay strong as a club. Thank you for your support.

JUNE OPERATING EVENTS

Here are some of the major operating events that will be held in May. This information was compiled from various sources:

June 3	Portugal Day Contest (according to NCJ (National Contest Journal))
June 3	Portugal Day Contest (according to QST)
June 10	Portugal Day Contest (according to CQ magazine)
June 10-11	TOEC WW Grid Contest Phone (this is a new one this year)
June 10-12	ARRL June VHF QSO Party
June 17-18	All Asian CW DX Contest
June 24-25	ARRL Field Day

Jeff - AC4ZO

ORGAN DONATIONS-- A SPECIAL GIFT

Over the years, the amateur radio community has been known for it giving spirit and willingness to come to the aid of others. This was so ably demonstrated here in Raleigh after the tornado in 1988 when many area hams worked long radio shifts to assist in rescue and clean-up efforts.

It is in this spirit of giving that I write an article on organ donations - the final act of giving and caring. As many of you know, I have been on a transplant list for a kidney for over 2 1/2 years and hope my day will come soon. Unfortunately, I have much company. Presently there are nearly 40,000 people in the U.S. awaiting some type of transplant. And over 800 people in N. C. awaiting a kidney transplant. Why such long list of waiting recipients?

Each year only about 10,000 people die who are eligible to be organ donors. Of that group only about 35% actually have their organs donated. To be eligible to deceased must be what is called "brain dead" - that is the heart still functions, but there is no brain pattern activity. This usually comes after some kind of traumatic injury such as an automobile wreck.

To become an organ donor you must follow TWO steps. First, and most important, you should let family members know of your decision to donate, because in the event of your death, a family member must give the hospital the ultimate OK to proceed with the removal and use of the organs. Second, you must fill out an organ donor card or have it noted on your drivers license that you wish to have you organs donated at your death.

There are many misconceptions about organ donations which need to be addressed. First, the decision to remove the organs is not made until the doctors have determined that the is no hope that brain activity can be restored. Second, the surgeons are sensitive to the grieve of the family left behind, and the body of the deceased is treated with respect in the process of organ removal and returned to the family for burial. Finally, the family of the deceased bears not financial responsibility for the procedure.

continued over >>>>

None of us like to think about our own deaths, but a simple step such as filling out a donor card can allow your tragedy to benefit someone else - after all isn't this the spirit of a ham operator? If anyone has additional questions, please contact me or the Carolina Organ Procurement Agency (COPA) in Durham at 1-800-200-2672.

Edward Breeden N4SSU

EMF CANCER LINK STUDIED

The Council of the American Physical Society (APS) has issued the results of a study entitled "Power Line Fields and Public Health," concerning the potential dangers of cancer from electromagnetic fields that emanate from common power lines and electrical appliances.

The APS concluded that "the scientific literature and the reports of reviews by other panels show no consistent, significant link between cancer and power line fields" and " the preponderance of ... research findings have failed to substantiate those studies which have reported specific adverse health effects from exposure to such fields.

"While it is impossible to prove that no deleterious health effects occur from exposure to any environmental factor, it is necessary to demonstrate a consistent, significant, and causal relationship before one can conclude that such effects do occur. From this standpoint, the conjectures relating cancer to power line fields have not been scientifically substantiated."

The APS said that billions of dollars are being spent by states and municipalities to mitigate and litigate this perceived problem and "the burden of cost placed on the American public is incommensurate with the risk, if any."

A background report on this issue by David Hafemeister is available on the Internet through the APS World Wide Web HomePage at: http://aps.org

from an ARRL Bulletin

PRIMER FOR HOMEOWNERS: THE ELECTRICAL SYSTEM

The most important thing to find out about the electrical system is whether it contains enough "volts", which are little tiny pieces of electricity shaped like arrows so you can tell which direction they're moving...

The standard measurement for volts is "amps", also called "watts", which travel around in what is called a "circuit". A typical circuit works as follows: At the electrical company, fuel oil is burned to set fire to a generator, which gives off electrical energy in the form of sparks, which are put into wires and sent to your home, where the electricity waits in the wall until you turn on your toaster, at which point it rushes through the wire and into the English muffin, and from there into your stomach, where it remains until a cool, dry day when you are walking down a hall scuffing your feet on a carpet and you go to open a door, causing the electricity to leap into the doorknob, where it remains forever, building up over time to tremendously high levels, which is why scientists are now concerned that if some unscrupulous entity such as Libya or God forbid an adolescent male ever figures how to release this power, he could, using only the latent doorknob energy contained in a single older ranch-style home, vaporize Oregon.

But your immediate concern, as a potential buyer, is making sure that the house has the right number of volts. Following is a chart depicting the most popular voltages currently available in the housing market:

POPULAR HOME VOLTAGES

120 240 9*

**Requires 9 volt battery (not included)*

Which voltage is right for you? This, more than anything else, is a matter of taste; and like most matters of personal taste, it is best left in the hands of a qualified interior designer.

The article is from Homes and Other Black Holes by Dave Barry and Jeff MacNelly, Random House, New York, 1988 and appeared a few years ago in the Raleigh News and Observer.

via Mike WA4BPJ

.64 REPEATER UPDATE

Here's a quick update on what's been happening with the RARS 146.64 repeater:

SPUR —

Mike WA4BPJ discovered a bad bypass capacitor in a lower level stage of the transmitter. It was very temperature sensitive — OK when warm, bad when cold! With that replaced, the spur we've had on cold mornings, around 147.015, is gone!

RECEIVER INTERFERENCE:

Immediately after solving that problem, another surfaced. What you heard on the air were some long "squelch tails," or long bursts of noise after some transmissions. Weaker signals from repeater users would be garbled, and would take on a bit of echo. The noise would last anywhere from a few seconds to about a minute.

The cause, more or less, is a mix between three transmitters. One of them is our own 146.64 transmitter, and the two others are cellular transmitters in the 893MHz area, part of the Sprint Cellular site sharing the tower. When all three transmitters are on the air, a moderately strong signal appears at our receiver terminal (through the duplexer) at 146.03 MHz — that's 10 kHz below our receive frequency, and close enough to cause the problem we're hearing.

The solution is unknown, and requires more investigation. We have to find out where the mix is occurring, and apply the remedy.

Meanwhile, since our own transmitter is part of the mix, reducing our output power reduces the mix signal. So I've dropped transmit power from the 45 watts we were able to run after Mike repaired the transmitter, down to about 25 watts (out of the duplexer). That and tightening the squelch a bit keeps most of the long squelch-tails down. It's a band-aid fix for the time being.

73, Gary KN4AQ

HELP WANTED!... TRADERS NET

Are you looking for a way to get involved in RARS? Would you like for your efforts to benefit other hams? Here's the perfect opportunity! The RARS Thursday evening Trader's Net needs a transcriber...someone to record and type the transactions of the net. One of the advantages of the RARS Trader's Net is its wide distribution. Many of the items sold or traded are discovered by others through the internet, the RARS BBS or one of the many North Carolina packet BBS's.

A computer equipped with a simple word processor or text editor, a communications program and modem are the minimum requirements. A packet station would be helpful but not necessary. I have found the audio recording of the net very helpful. Generally, I can't type fast enough to keep up with the details of each item. I can fill in the blanks later with the tape. It's not even necessary to actually be present during the net. Although it's generally advisable for you to monitor the net so that ambiguities and uncertainties can be cleared up, a family member or friend can record it in your absence if you can't be there. Once the file has been typed, it's modemed to the RARS BBS, distributed to North Carolina packet BBS's through the local N1GMV packet node and sent to N4ZBB for internet distribution. Don't worry if you aren't able to handle the packet and internet parts of the distribution. I'd be happy to continue this part of the task. If you think you'd like to help or you have any questions, please give me a call. You can reach me during the day at 878-1310 or evenings at 847-4641.

73,
Mike WA4BPJ

FIELD DAY IS COMING!!!

There's still room for you if you act NOW!

See page 1 for details.

HURRICANE DISASTER INFORMATION FILE

Tracking Hurricanes

Hurricane and tropical storm positions are given in terms of latitude and longitude to the nearest one-tenth of a degree. Latitude lines run across hurricane tracking charts (maps) from left to right. longitude lines run from bottom to top. Latitude gives the north-south position on the earth's surface, longitude the east-west position. Therefore, by knowing the latitude and longitude of a storm, we can locate it on a map. As an example, try to locate 32.3 degrees north latitude and 64.8 degrees longitude. You should be very close to the island of Bermuda.

A hurricane tracking chart appears in the January 1991 issue of QST in "Field Forum", and is suitable for reproduction. Larger (and more sophisticated) charts are available from commercial sources.

For example, Kornor Enterprises sells heavy-duty plastic laminated charts in various sizes. Erasable marker and instructions are included. The company has agreed to sell the charts to ARRL members at a special, reduced price: 17x22" — $12.50; 11x15" — $10.50; and 8.5x11" — $8.50. (Includes shipping/handling). Identify yourself as an ARRL member when ordering. Order from Kornor Enterprises, PO Box 461, Cleveland, OH 44094, American Express, VISA, and MasterCard credit cards accepted. The KORNOR map is used by the staff at the National Hurricane Center in Coral Gables, Florida.

On the KORNOR map, solid black lines are drawn for every five (5) degrees of latitude and longitude. White lines are drawn for every (1) degree. By definition, one degree of latitude is equal to 60 nautical miles. This gives us a convenient way of estimating distances on a chart. Measure the distance between any two points, then lay this distance out on one of the north-south longitude lines. Count the number of degrees of latitude and multiply by 60 to find the distance in nautical miles. To convert to statute miles, multiply that answer by 1.15. One nautical mile equals 1.15 statute miles. One knot (nautical mile per hour) equals 1.15 statute miles per hour.

Hurricane tracking software is also available.

During major activity, storm coordinates are provided in 3- and 6-hour updates on NOAA weather radio services around the country in the 160 MHz region (162.55 at RDU). Modern 2-meter FM rigs with extended receive capability cover NOAA broadcast frequencies.

Tropical Storm and Hurricane Terminology

TROPICAL DISTURBANCE: An area of showers and thunderstorms that may have a slight cyclonic (counter-clockwise) surface circulation and maintains its identity for at least 24 hours. These are very common occurrences in the tropics.

TROPICAL DEPRESSION: A storm system displaying a noticeable rotary circulation with maximum sustained wind speeds of 38 miles per hour (33 knots).

TROPICAL STORM: Displays a substantial rotary circulation with sustained winds of 39 to 73 miles per hour (34-63 knots). When reaching tropical storm strength, a storm is given a name to aid in tracking.

HURRICANE: Strong rotary circulation with sustained surface winds of 74 miles per hour (64 knots) or more. In the western North Pacific and most of the South Pacific, such storms are called Typhoons. In the Indian Ocean they are called Cyclones.

Advisories, Watches and Warnings

SMALL CRAFT ADVISORY: Alerts boaters to wind or sea conditions that might be hazardous to small boats. Usually wind speeds must be at least 20

miles per hour (18 knots). Issued when a tropical storm or hurricane moves within several hundred miles of the coast. Boaters are advised to take precautions and not venture into the open sea.

GALE WARNING: Coastal wind speeds between 39 and 54 miles per hour (34-47 knots).

STORM WARNING: May be issued when winds of 55-73 miles per hour (48-63 knots) are expected on area waters.

HURRICANE WATCH: Issued when there is a threat of hurricane conditions developing within 24 to 36 hours.

HURRICANE WARNING: Hurricane conditions with winds of 74 miles per hour or more (64 knots) and/or dangerously high tides and waves are expected within 24 hours. People within the warning area should begin to take action to protect life and property.

TORNADO/SEVERE THUNDERSTORM WATCH: Tornadoes and severe thunderstorms often develop when hurricanes and tropical storms make landfall. A watch means these storms are possible.

TORNADO/SEVERE THUNDERSTORM WARNING: Tornadoes or severe thunderstorms are occurring within the warning area.

Operating Guidelines

1) Listen. Monitor recognized disaster net frequencies. Transmit only when directed by a disaster net control station, or station in the disaster area. Major nets include:

International Assistance and
Traffic Net (IATN): 14.303 MHz
Hurricane Watch Net (HWN): 14.325 MHz
Friendly Caribus Connection: 14.283 MHz

2) Monitor W1AW for timely bulletins.

3) Hold off on health and welfare traffic. Don't clog primary disaster frequencies by trying to force H&W traffic into the disaster area. US amateurs' efforts must be directed to receiving messages from the affected area, each one having the potential of heading off numerous US- originated messages. US amateurs must listen carefully for instructions on handling H&W traffic.

4) Control of the communications situation belongs with amateurs IN THE AFFECTED AREA. Act according to their directions and those of designated net control stations.

5) It is the responsibility of the Red Cross to manage the H&W traffic function (the Red Cross term is "Disaster Welfare Inquiry"). We support the Red Cross communications network, not the other way around.

Contact your local Red Cross chapters now to establish local systems for handling H&W traffic.

from the ARRL BBS

SUPERHIGHWAY ROADBLOCK

A communications reform bill that recently cleared the Senate Commerce Committee was considerably less deregulatory than Sen. Larry Pressler had promised. Several Los Angeles area papers reported that the bill retains FCC broadcast ownership ceilings of 12 TV stations but the amended portion would extend ownership reach to 35% of U.S. homes from current level of 25%.

The proposal keeps FCC limits on foreign ownership to no more than 25% of U.S. broadcast properties, but nixes a similar rule for foreign investment in U.S. telephone companies. It also extends the license term of radio and television stations.

Finally, the measure does allow telephone companies to immediately enter the cable TV business, and vice versa. Cable rate regulations remain in effect until telephone companies are in the position to offer video delivery competition.

from Amateur Radio Newsline

OPEN AUTOPATCH COMES TO STARS 145.13 REPEATER

The STARS/RARS 145.13 repeater now has open autopatch... but there's a catch, so pay attention.

The repeater is located on the D.H. Hill Library building, on NC State campus. The phone line is being provided by the university at no charge, because of the potential for safety and public service on the repeater. The catch is that the university phone system requires you to dial "9" to get an outside line.

So repeater users will have to dial the autopatch access code, get the university dial tone, then dial "9" plus the rest of the local number. (If you're dialing an "inside" university number, including student's rooms, you do not dial "9," and you dial just a 5-digit number.) Since that bit of education is necessary for successful autopatches, we decided not to make the patch the usual "star-up / pound-down" type. It will still be OPEN, but you'll need to know the code (that's the autopatch access code, not the Morse code, or even the AT&T Collect code).

We'll publish the code (you'll read it here, in just a few lines), and give it out in person. Once you learn it, you can tell any ham as well... BUT, NOT ON THE AIR.

OK? Tell people on the phone, at a meeting, just not on the air. And the whole reason for this is that bit about having to dial "9."

And here's the code:

Autopatch UP: * 1 3 (wait for dial tone), 9 + number

Autopatch DOWN: # 9 (repeater will ID when you kill the patch)

Clever, eh? 145.13 repeater... *13 access code! And just the # won't kill it — you'll need #9.

The autopatch will be available from about 8 am (or whenever the morning control op wakes up) until about 11 pm (or whenever the night control op goes to bed).

If someone doesn't know the code, you can always dial the access for them, get the dial tone, and let them finish dialing for themselves (remember to tell them they have to dial "9").

There will be some autodial capability, including emergency autodials, but they weren't ready for this article. The regular autodial slots will go to members of the W4ATC club.

So keep it in mind, and check out the range of the .13 repeater. It covers the city pretty well for mobiles, but HTs can get spotty in the fringes. It does not have much signal in the RTP. But if you are in range, and .64 is busy when you want to make a patch, use 145.13 instead of interrupting .64 (unless 13 is busy, too).

Thanks to Danny KD4RAA for keeping up the drive to get this phone line... and thanks to NCSU for providing it!

Gary KN4AQ

DETAILS ON HF DATA

The FCC has released its Report and Order in PR Docket 94-59, concerning HF digital communications in the Amateur Radio Service. The new rules, effective July 1, 1995, permit automatically controlled HF RTTY and data stations to communicate with one another in the following segments: 28.120 to 28.189, 24.925 to 24.930, 21.090 to 21.100, 18.105 to 18.110, 14.095 to 14.0995, 14.1005 to 14.112, 10.140 to 10.150, 7.100 to 7.105, and 3.620 to 3.635 MHz.

The new rules also permit manually controlled stations to initiate communication with automatically controlled HF RTTY and data stations. In this case the automatically controlled station may use any frequency authorized for such emissions, but may occupy a bandwidth of no more than 500 Hz.

Automatic control must cease upon notification by an FCC engineer in charge that the station is transmitting improperly or causing interference to other stations.

The FCC said it recognized the concerns of those who opposed the proposal on grounds that such operation could interfere with other amateurs, but that it believed the provisions adopted would be adequate to minimize such interference.

from Amateur Radio Newsline

HOW TO STUFF A WILD HT

Sometime back, Gary KN4AQ, wrote an article on how we program frequencies in our HTs. After reading some of the responses, I was in a quandary. Should I program by frequency, location or what the heck, any ol' way. The Felix Ungar (The Odd Couple) in me caused great strife.

Now a company called RT Systems in Huntsville, AL (205-882-9292) has come to my rescue. The recently introduced Yaesu FT 11/41/51 series of HTs have a cloning feature via the earphone jack. RT Systems has introduced a Programming Kit which uses this cloning feature to program your Yaesu with your PC.

Released at Dayton, this product got the Compuserve Hamnet area started buzzing. The Tuesday after Dayton I called a weary staff at RT Systems and ordered the Programming kit ($39.95 plus shipping) and it arrived Friday. The kit consists of a Windows-based software program and a RS-232 to miniplug cable. The RS-232 has some level adjusting circuitry in the housing. My original cable had a bad solder joint, but after several very helpful calls to RT Systems I got the board repaired.

Once operational, I was able to upload from my FT11 and FT51 frequencies, repeater offsets and other features into the PC. Then I was able to make any modifications needed and download this back to the radio. One especially nice feature for me was the automatic programming of special features of the radio like alpha displays, lamp mode, etc. Now I don't have to consult the HT manual each time I want make a change, I just click on the appropriate box by the feature and the link takes care of for me.

I see several useful applications for this program. First, if you travel to different cities, you could have files in the PC for those locations and download them before leaving. Second, you can be like me and have files ordered by location of the repeater (Raleigh, Cary, Zebulon, etc.) or by frequency - change as often as you wish. Finally, this is a great back-up in case the HT's brains get scrambled.

If you have the Yaesu FT11/41/51 series of HTs or considering buying one, this may take you over the top. Currently, the Program Kit includes software for both the FT11/41 and FT51. Apparently there are some differences between the HTs and I haven't tried to import a file from one model to other. Felix Ungar would be proud of me.

Edward Breeden N4SSU

Practicing for the Unthinkable:

AT FUQUAY FOR THE SHEARON-HARRIS DRILL

So what really happens in the trenches during an ARES drill like the recent Shearon-Harris nuclear power plant evacuation exercise? Here's my exciting tale...

I was originally signed up to do the Public Information Officer job at the "Joint Information Center," but somebody in the emergency management hierarchy didn't know what they needed a ham there for, so I was cut loose. A second-shift operator was needed at the staging area in Fuquay-Varina to relieve Max KO4TV, so I headed south on NC 55.

Max had been having trouble getting into the .88 ARES repeater with an HT. He could hit the repeater outside with his mobile, but inside the command post was an RF hole — no way. I had prepared to operate from the basement of the Civic Center, using not one but TWO crossband repeaters in my car to connect my HT signal to the world, so I was set for the Fuquay hole.

Outside Fuquay Town Hall, fire trucks and ambulances were lined up, ready to run, with their personnel milling around. Max took me past the boxes of sandwiches stacked up in the driveway and inside to the command post, and introduced me to the folks in charge.

There were representatives from the Fuquay Police and Fire Departments, the Wake Co. Sheriff, and the Emergency Medical Service, circled around a table that was covered with paper and at least 8 handie-talkies. Two cordless phones, two cellular

continued over >>>>

continued from page 9

phones and a portable base station on the EMS channels rounded out the communications equipment.

Every once in a while, someone would reach across the table and knock all the HTs down like dominoes (I kept mine in my lap).

I got a bunch of paperwork to fill out, a dosimeter for taking personal radiation readings, and a bag of 14 Easter-colored M&Ms that simulated Potassium-Iodide (KI) capsules. The KI capsules are designed to protect your thyroid gland by flooding it to capacity with iodine, blocking any radioactive iodine from getting in when you're exposed to radiation.

Somebody suggested that the M&Ms might taste better than the real capsules, and someone else suggested that when the dosimeter started registering in the red zone, the KI capsules would taste sweet indeed.

We were advised not to eat the M&Ms. Mine looked like they were left over from the exercise two years ago... maybe four years ago.

The folks in the command post were in charge of units that were standing by in the staging area, and others that were driving the evacuation routes. Their radios carried little traffic, and the few messages generated were quickly disposed. By comparison, the .88 repeater was quite busy. I was impressed with how efficiently Jerry KE4TTS, Rick KA3PSK and Jerry AI0K were running the amateur nets — there was a lot less "rag-chewing" and extra babble than we often get. Still, compared to the pros, the ham repeater was downright chatty.

Other than checking in when I arrived and left, I had no traffic. My job would be to back up communications for the folks around me. Their communications systems were not integrated directly. There would be no way for an EMS unit to talk directly to a Sheriff's car, for example. So any one of them could have been disabled or overloaded, giving ham radio the opportunity to provide the extra conduit for messages to the state or county EOCs, shelters, etc. In a real emergency, that might happen, but for the drill, things were quiet enough.

I thought about suggesting that some of the officials I was working with come up with test messages so I could show what ham radio could do. I didn't suggest it then, but I'll bring it up at the review meeting. I also thought about how narrow our repeater link would seem if there were a lot of messages to ram through it in a short period of time. There was some traffic on .88 between the EOC and the Red Cross. David N4YTO reported that the Red Cross's cellular phones were down, and ham radio became their primary channel for messages.

The whole exercise began with a call-up of hams at about 4:30 pm. I took over from Max at about 8 pm, and at 9:30 word came that conditions at the nuclear plant were getting worse. We were advised to take a simulated KI capsule. That order created the most interesting incident of the evening.

Our instructions said to take one capsule per 24 hour period, but word came over the EMS radio that a fire marshall out in the staging area had issued instructions to eat all 14 M&Ms. Before the command post could countermand that order, many of the

...IODINE OVERDOSE...

EMS and fire personnel had done just that. At first it was kind of a joke (do you know how hard it is to eat just ONE M&M?). But it dawned on everyone that the communications and instruction foul-up was pretty serious. An iodine overdose isn't life threatening, but people would get sick and require some of medical attention that they were supposed to be dispensing instead.

By 10:30 pm, things were pretty slow. Talk around the table turned to autopsies and various traumas these folks had witnessed after shootings and accidents. Fortunately, I had been on a crew producing a video at a hog slaughtering plant a few years back, so my nerves were steeled for the discussion.

Just before 11, we got word we could shut down. There was a flurry of activity on the HTs, we turned in our dosimeters and paperwork, and headed home, better prepared for the real thing, should it ever occur.

Gary KN4AQ

WAVECAT INTERNATIONAL, INC.

'Antennas for a Small Planet'

P.O. BOX 2803 - ATLANTIC BEACH, NC 28512-2803

FIELD DAY SPECIAL! #99.00

WAVECAT SYSTEM 10 AND WAVECAT SYSTEM 12 ANTENNAS

AT LAST !!

AFFORDABLE 2 element minibeams for the 10 and 12 Meter Bands that offer:

SMALL SIZE, BIG PERFORMANCE, and LOW COST
with these amazing features:

PRE-ASSEMBLED
No assembly or tools required

PRE-TUNED
Little or NO tuning required for any 300 KHz segment of the 10 M band for a maximum S.W.R. of less than 1.5 to 1.
Full coverage on 12 M.

NO BALUN REQUIRED
It's built in. Just plug your 52 Ohm cable into our SO 239 socket and you're on the air.

POWER RATING: 1 KW SSB

GAIN, FRONT-TO-BACK, AND FRONT-TO-SIDE RATIOS

Front-to-back and front-to-side rejection: equal to or greater than a full size 2 element Yagi. Typically 15 dB F/B and greater than 40 dB F/S ratios with a calculated gain within 1 dB of a full size Yagi on 10 Meters and within 1.5 dB on 12 Meters.

PHYSICAL CONSTRUCTION

Each antenna is constructed of sturdy lightweight aluminum with elements of only 8'6" in length and a boom length of 4' which equates to a turning radius of only 4'8" (horizontally mounted) and only 2' (vertically mounted).

The loading and matching networks are enclosed in sturdy ABS plastic housings and are secured with stainless steel hardware. The boom -to-mast hardware is of galvanized corrosion resistant steel.

Both the WaveCat System 10 and System 12 antennas can be installed or taken down in less than 5 minutes. Each antenna folds to a convenient 4' slimline package with no assembly or disassembly required and weighs only about 4 pounds.

While these antennas are perfect for apartment dwellers, restricted zoning areas, R.V. and camping enthusiasts - and keep the spouse and neighbors happy - they are serious antennas that can take considerable power and hold their own in the pileups.

ORDERS ONLY: 1-800-WAVECAT
(800) 928-3228
FAX (919) 247-5449
TECHNICAL SUPPORT (919) 240-0330

Thanks

for helping at RARSfest

continued from page 1

KJ4SO	Woody	*MailingLabels/Programs*
KM4BU	Walter	*Flyers/"The Band"*
KO4TV	Max	*RARS Table*
N4VQN	Bob	*Treasurer*
N4YTO	David	*Communications*
NF4P	Rollin	*Pre Hamfest Ticket/ Table Sales*
WA4LHE	Glen	*Co-Treasurer*
WA4MJF	Ronnie	*Co-Hamfest Chairman*

AB4EL Steve	AB4OZ Alan
AC4AN Mike	AC4QX Lauren
AD4RC Ferdinand	AD4ZE Warren
K4MC Bob	KA2JFG Betty
KA4NSA Alan	KB4MDZ Chuck
KC4KGO Mark	KC4SYV Sandy
KC4UPX Bernard	KC4UQO Bill
KD4ACK Sharon	KD4GAN Dennis
KD4ISC Dick	KD4ISD Joe
KD4JMK Ken	KD4KMI Rodney
KD4LLQ Bill	KD4OKO Vickie
KD4OKP Ginger	KD4OKQ Mary Alice
KD4OLN Pat	KD4OLR David
KD4OWA Jim	KD4SLQ Wayne
KD4SMA Bill	KD4TRJ Lew
KD4VCH Rose	KD4WQU Dave
KD4WRY Norma	KD4WTI Barry
KD4WTJ Phil	KD4WTO Tina
KD4YRS Lois	KD4ZVS Betty
KD4ZVW Bobbie	KE3HF Dave
KE4CLT Chet	KE4DNL Gary
KE4DRI Ruth	KE4DRJ Joey
KE4DRL Katie	KE4DRN James
KE4EMT Barbara	KE4EMX Lee
KE4FCJ Pat	KE4IWK Al
KE4IYS Dick	KE4IZX John
KE4JRL Judy	KE4KFZ Ron
KE4LEH Peggy	KE4NQA Dana
KE4NQN Peter	KE4PAX Greg
KE4PHG Steven	KE4PNT Randy
KE4PPW Nancy	KE4QKV Jerry
KE4TMM Allen	KE4TMO Chris
KE4TMP Michael	KE4TTT Jim
KE4TUI Carl	KE4TZQ Dave
KE4UQE Joel	KE4VNX Diane
KE4YAC Gregg	KE4YAU Gregg
KE4ZNR Marshall	KF4MQ Denny
KI7HS John	KN4AQ Gary
KN4G Norm	KO4CK Liz
KO4QH Lynn	N2OPL Greg
N3QVK Brenda	N3QYE Jim
N4IQA Tim	N4JZW Jim
N4RWZ Rahul	N4VQT Rick
N4YRO Barbara	N4ZBB Ken
N5XJW Dave	NA4G Bob
NY4H Marty	W2VMD Frank
W4VFJ Charlie	W5PGX Ashby
W9VAK Don	WA4BPJ Mike
WA4GIR Joe	WD4KSE Mark
Athalea Corns	Harriet Key
Mary Jo Littlewood	Debbie Buck
Ed Nisley	Jim Campbell
Cathy Rinn	Kathleen Rinn

Many thanks to all those that brought food for the Social!

Cyndi, KD4ACW
Chairman RARSfest '95

CARY AMATEUR TOWER EXEMPTION:

ONE STEP CLOSER

5/11/95, Cary, NC. The Cary Town Council agreed at a public hearing tonight to specifically exempt Amateur Radio operators from a new ordinance designed to restrict the development of commercial towers in residential neighborhoods. The next steps will be drafting specific language for the ordinance, and finally seeing the ordinance passed by the planning and zoning board.

The new ordinance was actually drafted to permit cellular and PCS operators to build MORE towers in residential neighborhoods, as the existing ordinance made that extremely difficult. However, it still placed serious limits on those new towers, and

those limits would place considerable hardship on Amateur towers.

Several Amateurs contacted Cary officials with our concerns, and we were told that Cary planners had not considered the ordinance's effect on Amateur Radio, and did not wish to restrict Amateur towers. Cary Senior Planner Albert Benshoff said that language in the ordinance would be changed to indicate that only commercial towers would be regulated.

At the meeting tonight, we studies that new language, and concluded that it may not be clear enough to prevent misunderstanding the council's intent in the future.

After presentations to the council by Mr. Benchoff and a representative from the cellular industry, we made our request. Reed Whitten AB4W (ARRL NC Section Manager) asked for specific language exempting Amateurs from the ordinance. Mayor Koka Booth asked Mr. Benchoff if that would be acceptable, and Mr. Benchoff said it could be done. Addressing the council, Mr. Benchoff said "It is not the intent of the town to regulate in any way Amateur Radio or Ham Radio communications."

Hams considering Cary as "antenna friendly" are reminded that many Cary neighborhoods include restrictive covenants on property that limit and may even prohibit outside antennas of any kind. These covenants are private contracts, and are NOT covered by the exemption in the new ordinance.

73,

Gary Pearce KN4AQ

SAREX TO FLY IN JUNE

The Shuttle Amateur Radio EXperiment, or SAREX, will be carried on the 100th US human space mission when the Space Shuttle Discovery launches on June 8, 1995 at 1326 UTC. The mission is designated STS-70, and the crew includes one Amateur Radio-licensed astronaut, Mission Specialist Donald A. Thomas, KC5FVF. The crew has scheduled voice contacts with 8 school groups in the US and one in Argentina. Landing is targeted for June 16 at 1136 UTC at the Kennedy Space Center in Florida.

On this mission, the SAREX hardware will be flown in configuration C which includes 2 meter FM voice and packet. Amateurs should use the usual frequency set to make random SAREX contacts. The astronauts will operate split, transmitting and receiving on separate frequencies. Please do not transmit on the shuttle's downlink frequency. The downlink is your receiving frequency. The uplink is your transmitting frequency. The FM voice downlink is 145.55 MHz. The FM voice uplinks are 144.91, 144.93, 144.95, 144.97 and 144.99 MHz. The crew will not favor any of the uplink frequencies, so your ability to communicate with SAREX will be the "luck of the draw." To avoid causing interference to other stations, transmit only when the shuttle is within range and when the SAREX station is on the air. The crew will use KC5FVF as the primary voice call sign. On packet, use W5RRR-1 to log a contact on the SAREX ROBOT.

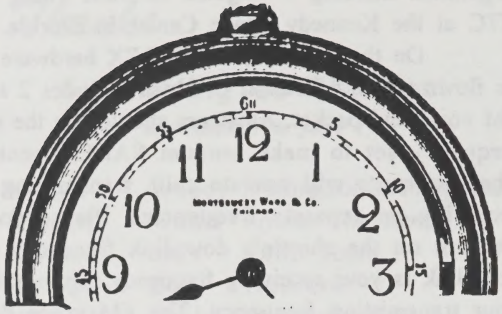
Send reports and QSLs to ARRL EAD, STS-70, 225 Main Street, Newington CT 06111-1494 USA. Include the mission number, date, time in UTC, frequency and mode in your report. You must also include a self-addressed stamped business-sized envelope if you wish to receive a card. The Sterling Park Amateur Radio Club in Sterling, VA has generously volunteered to manage the cards for this mission.

The flight will highlight the deployment of a sixth Tracking and Data Relay Satellite. Once deployed, an engine on the satellite will boost it into a geostationary orbit. The TDRS System provides NASA with communication and tracking capability to meet its mission support requirements.

SAREX will also be carried on mission STS-71, which is scheduled for no earlier than June 23. During that mission, the Shuttle Atlantis will rendezvous and, for the first time, dock with the Russian Space Station Mir. The shuttle will carry two new Mir crew members (Mir 19) to the station, and return to Earth with the three Mir 18 crew members, including US astronaut Norm Thagard.

For more information on SAREX, contact the ARRL Educational Activities Department.

from an ARRL Bulletin



MINUTES OF THE MEETING

RARS Board Meeting

April 18, 1995

The monthly Board meeting of the Raleigh Amateur Radio Society was held at the Forest Hills Baptist Church on April 18. The meeting was called to order by KA3PSK at 8:02p. Members present were: KD4ACW, WA4BPJ, K4HF, WA4PEN, KA3PSK, KC4UQN, and AC4ZO.

The March minutes were approved on motion by WA4PEN, seconded by WA4BPJ.

WA4BPJ gave the Treasurer's report and said that the RARS membership is 389.

In his VP report, KC4UQN said that the program for the May meeting will be "radio check-out". Members will be invited to bring radios to have their performance evaluated. The June meeting program will be "HF contesting and Field Day".

KD4ACW gave the hamfest report. She began by thanking all who helped with the event and said that attendance was about 3,448. Financial data was not yet available.

KE4FCJ Pat asked to Board to consider making the Ad-hoc Welcoming Committee which she has been heading up a permanent committee. A motion was made by KM4BU to designate the Welcoming committee a standing committee. The motion was seconded by KD4ACW but was defeated by vote. A new motion was made by WA4PEN to designate a Member Services Committee which would be a special committee which operates on a permanent basis and performs all the functions of the former Welcoming committee. The motion was seconded by AC4ZO, and was carried. Pat was appointed to the chair by KA3PSK.

On motion by KD4ACW, the meeting adjourned at 10:06p.

Respectfully submitted,
Jeff Wittich, AC4ZO - Secretary

Regular RARS Meeting

May 2, 1995

The regular meeting of the Raleigh Amateur Radio Society was held on May 2, 1994 at the Forest Hills Baptist Church on Clark Avenue. The meeting was called to order at 7:37p by Bruce KC4UQN and was attended by 109 persons. Special recognition was given to all new amateurs and RARS class graduates. (applause)

Mike WA4BPJ gave the Treasurer's report ,and said that RARS membership is 388. Mike also said that membership renewal time is approaching, and he is available at the sign-in table to handle renewals.

Cyndi KD4ACW gave the hamfest report. She said that attendance was about 3500, and that the event was a financial success. Cyndi thanked all volunteers, and announced a meeting at WA4MJF on May 3 to discuss changes for next year.

Jeff AC4ZO made a brief announcement about the ARRL outgoing QSL bureau. Free use of the bureau is a service RARS provides its members.

Gary KN4AQ thanked all who assisted with the Shearon Harris ARES drill and announced a meeting on 17 May to discuss problems that came up. Also, Gary announced that a public hearing will be held on May 11 in Cary concerning antenna ordinances.

Paul NO0T announced a meeting planned for May 17 at 7:00p at KA3PSK for Packet Cluster users. The purpose of the meeting is to discuss management and technical issues of the cluster.

Chuck K4HF reported the sad news of the death of C. T. West, long-time RARS member and newsletter editor in the '70s and '80s. As Press Secretary for Governor Scott, C. T. was very influential for amateur radio in the state of North Carolina.

KC4KIC
Sam Johnson
Attorney

P.O. Box 1776
Raleigh, NC 27702 USA

Bus. (919) 832-8396
Res. (919) 787-0603

Johnson, Mercer, Hearn & Vinegar, PLLC

10/94

N4IQA
Robert P. Buehlmann
Historian and Collector
of
Antique Radios, Artifacts & Documentation
Commercial, Amateur and Military

1314 Chaney Rd **(919) 851-5169**
Raleigh, NC 27606

KN4FL

JOHN P. SWAIN, JR., D.D.S.

225 Bryan Building
Cameron Village
(919) 833-3826 **Raleigh, NC 27605**

RE/MAX
Property Associates
Independently Owned and Operated

Joe Adles
Broker Associate
5401 Six Forks Rd, Suite 100
Raleigh, North Carolina 27609
Office: (919) 781-5552
Toll Free: (800) 326-3418
Home: (919) 790-5722
Toll Free: (800) 563-7355
Fax: (919) 571-9887

Alan AB4OZ gave the upcoming hamfest activity for this area.

Doug AD4UL thanked all who helped with the March of Dimes Walk America this past weekend, and announced the next public service event: the MS Society bike ride on May 21. Doug also said that many people were needed for the Special Olympics on June 2, 3, and 4. He then introduced Pat McDowell who is with the Special Olympics, and showed a couple of short videos about the Special Olympics.

Rick KA3PSK conducted a drawing for 3 $75 gift certificates for people that volunteered at the hamfest. The winners were: Jerry Burleson, Charlie Brown W4VFJ, and Ed Nisley.

Door prizes went to: KE4EMY, WA4LHE, KE4DRJ, WD4DRT, KC4UPX, K4DRT, KE4IZP, AD4XR, AC4ZO, K4SAN, and KE4ZNT.

Bruce KC4UQN introduced the program for the evening at 8:54p. The program was "radio check-out". Members were invited to bring radios to have their performance tested.

Jeff Wittich, AC4ZO
Secretary

CELLULAR SATELITTES

Call it Cellsat for short. That's not its real name but it is a new satellite in orbit designed to provide continuous service for cellular phone users. Its owner, American Mobile Satellite Corporation says that the new bird is dedicated exclusively to mobile telephone, radio, fax, paging and data communications.

American Mobile says right now America's 20 million cellular phone subscribers can't use their phones in more than a third of the country. That's because there's not enough relay stations on the ground. But the new bird fixes this for those who go beyond a conventional systems coverage area. With the new bird, cellular phone users will have their calls routed automatically to the satellite which should begin commercial operations by fall.

from Amateur Radio Newsline

Amateur Radio - A National Resource
Raleigh Amateur Radio Society, Inc.
P.O. Box 17124
Raleigh, NC 27619
Address correction requested.

First Class Mail

Calendar of Events: June 1995

June 6:	**Regular RARS meeting; 7:30PM, Forest Hills Baptist Church**
June 8:	Triangle Amateur TV Assoc., info, Brian, KD4BFJ, 554-1279
June 8:	Information Highway Users Group, info, Curt KD4YU, 772-0207
June 10:	Winston-Salem Hamfest, info Alan AB4OZ, 787-1111
June 14:	**RARS VHF/UHF SIG meeting, info, Woody, KJ4SO, 848-1844**
June 19:	**Scanner/Shortwave Listening SIG, info, Curt KD4YU, 772-0207**
June 20:	**RARS Advisory Board meeting, 7PM, Forest Hills Baptist Church, All RARS members welcome.**

June 24,25: FIELD DAY (see page 1 for details)

June 27: RARS Crystals Dinner meeting, info, Liz, KO4CK, 387-9152

(June 1995 Operating Events Listed on page 3.)